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ABSTRACT

Two-year-olds' reactions to strangers were related to ratings of their emotionality, sociability and activity and to ratings of parental love and control by both fathers and mothers. Each child received two sessions with strangers, one male and one female. Four times per session a stranger, in a friendly manner, approached each child as it sat in a highchair. Children did not react differently to male and female strangers. Parental ratings of child-rearing practices correlated significantly with the children's responses on the first session but not on the second. Parental ratings of children's temperaments, however, did correlate significantly with responses on the second session. It thus appears that social interactions with parents may influence initial reactions to strangers, whereas subsequent responses to strangers may be more consistent with children's enduring behavioral predispositions, particularly their emotionality and sociability. (Author/RH)

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TEMPERAMENT AND CHILD-REARING ANTECEDENTS OF TWO-YEAR-OLDS' REACTIONS TO MALE AND FEMALE STRANGERS

Paper Presented at the Biennial Meeting of the Society for Research in Child Development
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This study of two-year-olds' reactions to male and female adult strangers addresses three issues: 1) developmental change in fear, 2) the influence of situational context, and 3) the influence of the parent's behavior and the child's temperament. To address the development of children's reactions to strangers, we adapted a procedure used by Morgan and Ricciuti so that we could make comparisons between their 12-month-old subjects and our two-year-old subjects. We hypothesized that we would see fewer negative responses and more positive and affiliative behaviors in two-year-olds. The primary contextual variable we studied was the sex of the strangers. We asked if two-year-olds respond differently with male and female strangers. On the basis of previous research we hypothesized that they would prefer the female strangers and react more negatively to the male strangers. In the third issue addressed, we asked if antecedents of temperament and child rearing were related to the children's responses to the strangers. Behavioral ratings of fear of a stranger were correlated with ratings of the child's emotionality, sociability, and activity and with ratings of parental love and control made by both fathers and mothers using short, global measures developed by Buss and Plomin. We hypothesized that such relationships would exist on the basis of evidence about the heritability of social introversion-extroversion and more generally evidence about the influence of parents. Despite the brevity of these scales we found significant associations between the children's reactions to strangers and the parents' ratings of their own parenting and their child's temperament. Thus with these three issues we were hypothesizing that different influences interact and contribute to the children's responses to strangers, a model consistent with the recent perspective

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of Sroufe in his review of the research on wariness. More specifically we hypothesized that a child's evaluation of an experience with a stranger and his consequent response are a function of his age, or cognitive and developmental level, the contextual variables within the situation itself, as well as antecedent individual differences in temperament, experience, and general family security.

We examined the effects due to the sex of the stranger by using eight strangers, four male and four female undergraduates. Others have found that infants generally respond more negatively to men than to women, but in all of these studies, with the exception of Skarin in 1978, the number of strangers has been too small to test the hypothesis about the influence of their sex systematically. Skarin studied infants 5 to 7 and 10 to 12 months of age using four strangers of each sex and presenting a man and a woman to each infant. These babies significantly preferred the women to the men. To our knowledge, there has been no adequate study of children's reactions to the sex of strangers beyond the first year of life. The subjects in our study were 16 males and 16 females between 24 and 27 months of age. The children and their mothers came for two separate visits about a week apart and, in counter-balanced order, saw a male stranger at one visit and a female at the other. In our procedure, each mother and child came to a laboratory room containing chairs for the mother and stranger and a highchair for the child. The stranger entered after the mother and child were settled and approached the child four times talking and smiling in a quiet and friendly way. Modeled after the work of Morgan and Ricciuti, each of the four trials contained four standardized episodes. In the first two, the stranger sat in the chair about eight feet from the child, and in the third and fourth episodes, the stranger moved within two feet and touched the child during the last episode. At the end of the four trials the stranger picked up the child. From videotapes of these sessions independent

raters coded each child's facial expression, vocalization, and visual and gross-motor behavior at 5-second intervals with high reliability. They rated each category using a scale of five points ranging in valence from negative, to neutral, to positive affective expression. To put the data into a more workable form, we averaged the scores and got composite affect scores for each episode, each trial, and each visit. We lost some of the subtlety of the behavior with this method, but achieved a usable measure of the general tenor of the children's affective responses. Before the laboratory visits during an interview in the home, one of our assistants explained the procedures and asked the parents to fill out questionnaires before coming in for their first visit. We used three dimensions of Buss and Plomin's EASI Temperament Survey (I) for children. The three dimensions of Emotionality, Activity, and Sociability were correlated with the children's responses to the unfamiliar adults. The parents also filled out the Childrearing Practices Questionnaire for both themselves and their spouses. The dimensions of love and control assessed in the questionnaire, developed by Plomin and reported in 1974, were heirs of earlier research and theory on the dimensions of childrearing.

Results

We found no significant main effects for the sex of the stranger or for the sex of the child. Children were not found to be differentially reactive to male or female strangers except as a joint function with the children's sex, the strangers' behavior, and the visit. None of the strangers received significantly more positive or more negative reactions than the others. When the means of the responses to each were ranked, two warm, nurturing females received the most positive affect scores, whereas two tall, rather gruff males received the least positive affect scores. The others fell inbetween with no clear division separating the women from the men. The sex of the strangers, then, seemed to be only one variable among other personal and physical characteristics of the

individual strangers which may have influenced the children's responses to them.

The comparison between the responses of our two-year-old sample and Morgan's and Micciuti's one-year-old subjects suggests some developmental trends. Using a similar approach to the data, we found that the two-year-olds were both less labile and less positive and negative in their affective responses to the strangers. They gave more neutral responses and thus as a group these older children were less wary and less positive than the younger infants.

We compared the percentages of two-year-old children reacting negatively with the percentages in the younger group and found that more two-year-olds were negative than one-year-olds when the stranger was across the room, 31% as opposed to 13%; whereas fewer two-year-olds were negative when the stranger was close and touching, 34% compared to 69%. These data suggest that by the age of two children are more consistently organized in their behavioral expression and that for two-thirds of them this situation with strangers was not so anxiety provoking that it elicited overtly negative reactions. Knowing what the neutral responses mean is difficult, and our rating system may not have been subtle enough to assess nuances of wariness or positive interest in these two-year-olds. One third of the subjects did give evidence of wariness and/or distress although only 12% of the total number of possible responses was negative. Thus at two years some of these children still gave some negative responses, but the proportion was clearly smaller than in the younger subjects.

Now I will discuss the results pertaining to the third issue, the relationships between the antecedents of temperament and childrearing and the children's reactions to the strangers. Fathers and mothers agreed quite well in rating their children's temperamental characteristics and their control in parenting. They agreed somewhat less well in rating their expressions of love. We used the average of these parental ratings in all of the subsequent analyses. The mother's expressions of love and affection were significantly related to the child's

sociability in a positive direction and to emotionality in a negative direction, but the father's expressions of love and affection were not significantly related. The less the mother expressed love and affection, the more emotional or excitable was the child. Both the child's temperament and parental love and control predicted significantly to the child's behavior in response to the stranger. Children who were rated by their parents as more emotional and less sociable were more fearful of strangers, especially in the second session. Both mothers' and fathers' love was related to positive affect, i.e. low fearfulness, on the first visit. Maternal control was negatively related to positive affect; the more controlling the mother, the more fearful the child. Thus on the first visit with the stranger, children receiving more overt love and affection were less wary and more secure during the experiment, and those whose mothers were more controlling and restrictive were more wary and less secure.

By the second visit, however, the temperamental variables were more predictive of their reactions than parent behaviors. Those children rated as more emotional gave more negative reactions during the experimental procedure; those rated as more sociable gave fewer negative and more positive responses. The parental childrearing variables were no longer significantly related to the children's responses to the strangers.

Assuming for the moment that this curious split in the correlations of day 1 with childrearing variables and of day 2 with temperament did not arise by chance, how might we explain such a pattern? We did anticipate relationships in the directions observed for both the temperament and childrearing variables. The patterns matched our common-sense predictions. We thought, however, that the relationships would be consistent across sessions 1 and 2. As an argument against the chance origin of these findings I would like to propose today that the pattern of change seems to fit an existing systematic theoretical model, that of Ainsworth's theory of attachment. The securely-attached infant,

according to Ainsworth, uses the mother as a source of comfort, reassurance, and security. Comtact or mere presence of the mother promotes adventuresomeness and a willingness to approach novelty in the securely-attached child. The ambivalently or insecurely-attached child derives less support from maternal proximity and, therefore, avoids novelty and is more fearful. The quality of the infant's attachment is related to maternal behavior according to Ainsworth's investigations. In this study, therefore, it seems plausible that the infants of the more cold, controlling parents were insecurely attached. The children behaved fearfully in the novel setting with a strange adult because they were less able to derive security from the proximity of the mother than the securely-attached children. By the second session, the situation had become less novel and the mother's role as source of security or arousal reduction was relatively less important than temperamental differences influencing social responsiveness. These relationships clearly remain open to further investigation. Nonetheless, these data suggest that in addition to the influences of developmental level and contextual variables like the sex of the stranger, social interactions with parents may influence children's initial reactions to the experimental stranger situation, whereas subsequent responses to strangers may be more consistent with children's enduring behavioral predispositions, particularly their emotionality and sociability.

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Correlations between Questionnaire Variables and Affect Scores

Affect Scores	Emotionality	Sociability	Mother Love	Mother Control	Father Love	Father Control
Total Score Visit 1	-.38*	.20	.43*	-.44*	.52**	.03
Pick-up Score Visit 1	-.27	.35	.46*	-.29	.47*	.14
Total Score Visit 2	-.48**	.58***	.17	-.25	-.07	-.22
Pick-up Score Visit 2	-.33	.63***	.20	-.14	-.13	-.20

Note The higher the affect score, the more positive it is, the lower the more negative. Thus high emotionality is negatively related to the affect score because fearful responses have low numerical values on the affect scale.

*$p < .05$ **$p < .01$ ***$p < .001$